If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A

C-A OPERATIONS PROCEDURES MANUAL

8.20.1.b 90-Day Waste Storage Area Contingency Plan

Text Pages 2 through 10

C-A OPM Procedures in which this Attachment is Used		
8.20.1		

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials
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Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

R. Savage

8.20.1.b 90-Day Waste Storage Area Contingency Plan

1. Purpose

1.1 The purpose of this document is to provide working guidelines for building personnel in the event of a spill, fire, or other emergency involving this waste storage area. Response plans for small-scale spills, fire, and medical emergencies are provided in Section 5. This plan is NOT intended as a substitute for emergency response training. Respond to emergencies, spills, or fires, ONLY to your level of training.

2. Notification

2.1 For all incidents that cannot be handled by the building personnel, the primary responsibility of the building personnel is to IMMEDIATELY contact the individuals listed in Table 1.

Table 1

EMERGENCY COORDINATORS
STORAGE, BUILDING 911

Position	Name	Office Phone	Pager
Police Superior Officer	Emergency Number	2222 or 911	
Fire Superior Officer	Emergency Number	2222 or 911	
Fire and Rescue Group Supervisor	John Searing On-Duty Fire Chief	 2350	
Storage Area Manager	Joel Scott	7520	631-453-5905
Alternate Storage Area Manager	Richard Savage	4640	
Rad Control Division	Paul Bergh	5997	631-453-4536
ES&H Coordinator	Asher Etkin	4006	5605

3. Site Description

3.1 Map or Building Location (see Figure 1).

3.2 Emergency/Safety Equipment

Emergency/Safety Equipment at this storage location is as follows:

90-Day Storage Area

- ABC fire extinguisher, and/or halon fire extinguisher
- Sprinkler system – manually fed
- Secondary Containers

Additional Storage Area Bldg. 919 (behind storage buildings)

- Fire Detection System - Pull Box
  (to left of storage building approximately 15 ft.)
- Telephone
- Absorbent Material
- Gloves/Boots (Rubber)
- Eye and Face Protection
- Oil/Chemical Absorbent Pads
- Shovel
- Large Plastic Bags

4. Types of Waste and Hazards

4.1 Waste Types

- Lead
- Oil
- Flammable Liquids
- Bases
- Acids
- Toxic Substances
- Aerosol Cans
- Batteries
- Oil Debris
- Small PCB Equipment

Note:
In accordance with Suffolk County Code and SBMS Subject Area requirements, "NO LIQUIDS" may be stored in this area that may freeze during winter months.

4.2 General Hazards

Personnel should read the Material Safety Data Sheet (MSDS) for any chemical product before handling or use. Regulations require that copies of the MSDS for a product containing hazardous components be made available to users.

Personal Protective Equipment, (PPE), specified for a particular substance, may be used by on-site personnel, if they have been properly trained in its use.

The mixing of incompatible substances in the same container is forbidden. Containers holding incompatible substances must be segregated.

4.3 Oil

Although oil products are normally combustible, they require exposure to direct flame or high heat to cause ignition. Avoid contact of oil and oil waste products with oxidizers. The contact may cause or increase the ease of ignition.

4.4 Flammable Liquids

Flammable liquids may be readily ignited at ambient room temperatures. These compounds may generate substantial quantities of flammable vapors in air at ambient temperatures. If the vapor concentration in air exceeds a critical percentage, the vapors can be easily ignited. Ignition can be caused by heat, friction, static electricity, or the operation of electrical switches or apparatus. Always ensure adequate ventilation to prevent the buildup of vapors and avoid contact with oxidizers.

Flammable solvents may be absorbed through, and/or cause defatting of the skin. Absorption of solvents or inhalation of the vapors generated by them is harmful and may cause both short-term effects and permanent damage.

4.5 Corrosives – Acids/Bases

Acids and bases are strong tissue irritants. The effects of skin exposure can vary from dermatitis through complete destruction of tissues (i.e. chemical burns). The vapors of acids and bases can cause damage to soft body tissues such as the eyes and the respiratory tract. Corrosives can generate toxic vapors or gases by themselves (i.e. hydrochloric acid, ammonium hydroxide), and by reaction with other chemical substances (i.e. cyanides, sulfides). Some acids, such as nitric and sulfuric, are oxidizers as well as corrosives.

4.6 Oxidizer/Reactives

These materials react vigorously with other chemicals and may self-decompose when heated. Personnel should become familiar with the MSDS specific to the material and handle accordingly.

4.7 Toxic Substances

Most chemical substances will initiate a toxic response if a sufficient dosage is experienced. For some substances the symptom – causing dosage is small and the material may accumulate in the body over a period of time before producing a toxic effect.

Different types of toxic chemicals can generate unique toxic effects. Acute or immediate symptoms pose the highest short-term risk, but many substances can cause permanent damage to organs and tissues. The MSDS for a toxic substance should be read and understood prior to handling the substance.

Toxic substances can enter the body through one or more routes of entry. Inhalation of vapors or particulate matter is the most common route of entry. Direct absorption or injection through the skin can bring toxic results. Ingestion of material from contaminated hands, food, drink, or smoking materials, is another possible route of entry.

Avoid all physical contact with toxic substances. Use the PPE appropriate to the particular substance. PPE should only be used after training in its use has been completed.

4.8 Compressed Gases

Compressed gas cylinders and aerosol cans may contain large quantities of material under pressure. The pressure of the container will increase in direct proportion to the temperature. If the pressure in the container exceeds the design limits of the container, the gas will either release explosively or, as in the case of many cylinders, through a pressure release mechanism. Mechanical damage such as puncture or crush damage can also release the compressed gas.

The release of gas from a container may cause the container to act as a projectile, fragment into several projectiles, or create a fire or toxic hazard emergency.

4.9 Batteries

Many different chemistries are used to produce electricity: automotive battery cells and "gel" cells containing lead compounds (toxic) and sulfuric acid (corrosive); older standard dry cells contain small amounts of mercury (toxic); rechargeable dry cells usually contain cadmium and nickel (toxic) compounds; and high energy dry cells may contain lithium (flammable and water reactive).

Normally these hazardous substances will be contained within the cells and will not pose any significant risk. They only become dangerous when the cell integrity is damaged or the cell is exposed to fire conditions. Familiarize yourself with the MSDS specific to the battery cells used and handle accordingly.

5. Emergency Response Action Plans

5.1 Spills – Following steps are only for personnel trained in chemical use. Call 911 or x2222 for Fire Rescue Response as per SBMS Subject Area

5.1.1 General Procedural Requirements

- Never attempt to clean any spill without first notifying the Storage Area Manager.
- Never perform any spill cleanup without at least one other person available to provide assistance.
- Do not attempt to clean any spill greater than the quantity recommended for the hazard category.
- When performing a spill cleanup, always wear PPE consisting of eye protection, splash apron, and the correct type of respiratory protection and gloves for the particular type of material spilled.
- Do not allow any spilled material to contact the skin or eyes.
- Do NOT respond to any spills of an unknown type; treat unknowns as a toxic material.

5.1.2 Oil

Local Response Maximum Recommended Quantity: 10 gallons

Spill Cleanup
Oil spills always pose a moderate fire risk. Remove all sources of ignition prior to any cleanup. Use an inert absorbent material to clean up the spill. The use of rags or paper towels is not recommended. Place the cleanup-generated waste into a metal vapor-tight container and label it with the same hazards that the original material had. Notify the Storage Area Manager of any waste generated during the cleanup.

Protective Equipment
Goggles or face shield, splash apron, and butyl, nitrile, or heavy rubber gloves.

5.1.3 Flammable Liquids

Local Response Maximum Recommended Quantity: 1 liter

Spill Cleanup
Flammable liquids spills always pose a high fire risk due to the vapors generated. Remove all sources of ignition prior to any cleanup. Use an inert absorbent material to clean the spill. The use of rags or paper towels is not recommended. Place the cleanup-generated waste into a metal vapor-tight container and treat it as hazardous waste. Notify the Storage Area Manager of any waste generated during the spill cleanup.

Protective Equipment
Goggles or face shield, splash apron, butyl or silver shield gloves, and an air-purifying respirator with organic vapor cartridges.

5.1.4 Corrosives – Acids/Bases

Local Response Maximum Recommended Quantity: 2 liters

Spill Cleanup
Use an inert absorbent material to clean the spill. Do not use rags or paper towels that may react with the spill. Place the cleanup-generated waste into a glass or plastic vapor-tight container and treat it as hazardous waste. Notify the Storage Area Manager of any waste generated during spill cleanup. Neutralize the area with a wash of sodium carbonate for acid spills or a weak acid (acetic or citric) for alkaline spills, if available.

Protective Equipment
Goggles or face shield, splash apron, neoprene or silver shield gloves, and an air-purifying respirator with acid mist cartridges.

5.1.5 Oxidizers/Reactives

Local Response Maximum Recommended Quantity: 2 liters

Spill Cleanup
Use an inert absorbent material to clean the spill. Do not use rags or paper towels that may react with the spill. Place the cleanup-generated waste into a glass or plastic vapor-tight container and treat it as hazardous waste. Notify the Storage Area Manager of any waste generated during the spill cleanup.

Note 1:
Many oxidizer solutions (e.g. chromic acid) are also corrosive; check the guidelines for acids and bases prior to cleanup.

Note 2:
Many reactives are water reactive and precaution should be taken when cleaning the spill.

Protective Equipment
Goggles or face shield, splash apron, neoprene or silver shield gloves, and an air purifying respirator with acid gas/organic vapor cartridges.

5.1.6 Toxic Substances

Local Response Maximum Recommended Quantity: Not Recommended

Spill Cleanup
Do NOT attempt to clean spills of these materials. Contact the Storage Area Manager and the Environmental Safety and Health Coordinator for instructions. Isolate the spill area until the cleanup has been performed.

5.2 Fires

DO NOT attempt to fight fires of ANY size if you have not been trained in the use of the available extinguishing agents. A fire that is improperly handled will not extinguish and may increase in intensity.

Immediately notify the Storage Area Manager, the Fire Superior Officer, and the Facility Support Representative in the event of a fire.

Do not fight any fire where the base of the fire exceeds approximately one square foot or where additional flammable materials may be at immediate risk of ignition. Leave the area immediately, and call 911 or 2222.

5.2.1 Flammable Liquids and Oils

Do not use water to extinguish flammable liquids or oil fires. Use only a dry chemical ABC or AB fire extinguisher for flammable liquid and oil fires.

5.2.2 Corrosives – Acids/Bases

Acids and bases generally will not support a fire but may react with other materials involved in the fire, potentially increasing the risk of toxic decomposition products.

5.2.3 Oxidizers/Reactives

Oxidizers generally will not burn but will support the combustion of organic materials and some metals. Fires involving oxidizers will burn with greater than normal intensity. DO NOT attempt to fight fires involving oxidizers.

Reactive chemicals will burn faster than oils and wood. Putting water on reactive chemicals may accelerate the fire. DO NOT attempt to fight fires involving reactive chemicals.

5.2.4 Toxic Substances

DO NOT attempt to fight fires when toxic materials are present. Dangerous levels of toxic chemicals may be present in these cases.

5.2.5 Compressed Gases

When compressed gas cylinders and aerosol cans are brought into contact with fire, there is a high risk of explosion. DO NOT attempt to fight fires when compressed gases are present. Evacuate the area immediately.

5.3 Chemical Containment Emergencies

SEEK MEDICAL ASSISTANCE IMMEDIATELY

When an individual has been contaminated with hazardous materials, it is important to remove as much of the material from the person as quickly as possible. When assisting an individual contaminated with hazardous materials, use caution to prevent contaminating yourself with hazardous materials.

5.3.1 Eye Contact

If hazardous material contacts the eye, immediately flush the eyes with cold or lukewarm water, holding the eyes open to irrigate under the lids. Maintain the flush for at least fifteen minutes. Seek medical attention.

5.3.2 Skin Contact

For hazardous material contact with the skin, remove any contaminated clothing and immediately flush the affected area with large volumes of water for at least fifteen minutes. For all materials except bases, wash the area with soap and water. In the case of contamination with a base, rinse the area for fifteen minutes. Seek medical attention.

5.4 Evacuations

5.4.1 Local

If an evacuation from the building containing this storage area is required, leave the storage area immediately and notify personnel in adjacent rooms of the potential hazard. Leave the building and proceed to building 928.

5.4.2 Facility

Facility evacuation alarms and procedures, as documented in the BNL Emergency Response Plan, are as follows:

- Continuous sounding of the site sirens for 5 minutes: Proceed immediately to the building assembly area. Await instructions, which may include the nature of the emergency, the type, sequence, and routes for evacuation.
- Intermittent sounding of the site siren for 5 minutes: Evacuate the site immediately. Carpools will convene in the usual manner unless otherwise noted.

6. Documentation

None

7. References

None

8. Attachments

8.1 Figure 1 – AGS 90-Day Hazardous Waste Storage Area

Figure 1

AGS 919 90-Day Hazardous Waste Storage Area